

CLASSIFICATION OF *HOMALOCORIS*
(HETEROPTERA: REDUVIIDAE: HAMMACERINAE), WITH THE
DESCRIPTION OF A NEW SPECIES

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Abstract.—*Homalocoris erythrogaster* n. sp. is described from Arizona, USA, and a key to the species is presented. Initial studies suggest that the species of *Homalocoris* can be separated into two groups based on scutellar and corium setal morphology.

Key Words: Reduviidae, Hammacerinae, *Homalocoris*, *H. erythrogaster* n. sp., key

The neotropical subfamily Hammacerinae (= Microtominae) is characterized by a unique antenna: the first segment is short and stout and the second elongate, flexible, and slender. The second segment is subdivided into 23–28 pseudo- or subsegments in *Hammatocerus* and 8–18 in *Homalocoris* (Fig. 1), the only genera in the subfamily. The hairy body is flattened, very granulose, the head has a very short posterior lobe, and ventral segments 2–5 are broadly depressed and sulcate medially.

The subfamily includes somber colored species ornamented with red, orange or gray. The smallest species in *Hammatocerus* is over 13.0 mm, longer than the longest species in *Homalocoris* that is 12.3 mm long. Because in both genera the male and especially the remarkable female genitalia are of a similar type they can not be used to separate the genera. *Hammatocerus* includes 12 species that were keyed by Costa Lima (1935: 321) as *Microtomus*.

The first couplet in the key published by Maldonado (1987: 253) stated in error “apex of scutellum 2-pronged” and “apex of scutellum 1-pronged.” SEM studies done by us demonstrate that all species have a

2-pronged scutellum. In some species the prongs of the scutellum are closer than the basal thickness of a prong and in others they are apart by more than their basal thickness.

The holotype of the new species described below is deposited in the Department of Entomological Sciences of the University of California at Berkeley.

METHODS AND DESCRIPTION

Homalocoris erythrogaster n. sp., *H. maculicollis*, *H. minutus*, and *H. varius* were studied with an IDS-DS 130 scanning electron microscope at the Electron Microscopy Laboratory, University of California at Berkeley. In the description given below measurements are in mm.

Homalocoris erythrogaster NEW SPECIES,
Maldonado and Santiago-Blay
Figs. 2–9

Male.—Head blackish; eyes black, antenna brown; rostrum reddish brown, last segment paler. *Pronotum*: anterior lobe reddish brown, posterior lobe black, with 1 + 1 elongate orange areas along its length (Fig. 2); pronotum laterally and pleurae blackish. Scutellum black. Legs: coxae brownish, hind

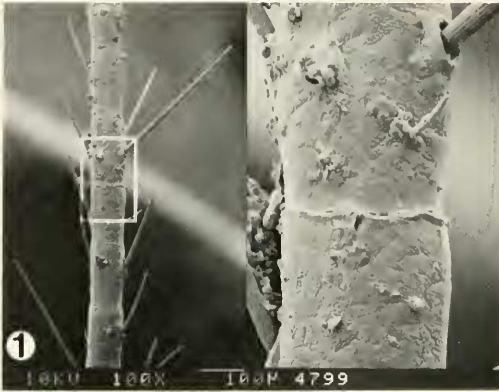
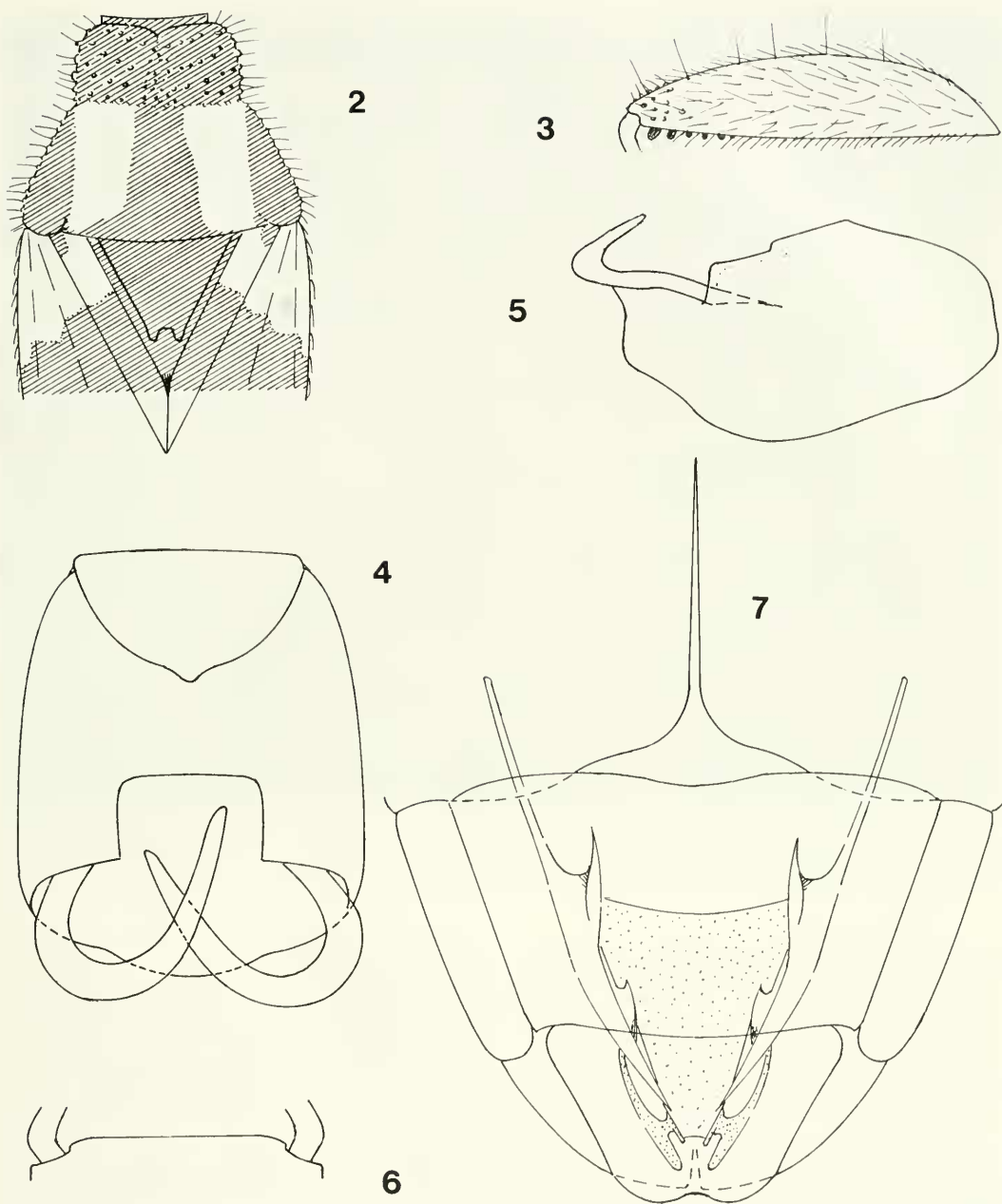


Fig. 1. 1. *Homalocaris maculicollis* antennal pseudosegments, inset 5 \times .

coxa paler; femora reddish brown above, brownish below; upper surface of first two pair of legs at about middle third irregularly brownish, in the hind femur of some paratypes the brownish of the underside extends dorsally, thus making the segment paler. First and second tibiae reddish brown, with two brownish or dark orange-annuli; hind tibia reddish brown, with a short basal and apical annulus. Connexival segments above and below dark orange with apical third black except on first where the apical half is black. Hemelytra: basal angle, including basal half of clavus, orange red or orange (Fig. 2); from level of apex of scutellum remaining part of wing black; small cream-white spots at apex of clavus and at basal vein of outer membranal cell and, thus, wings at rest appear with three small whitish spots. Thoracic and abdominal sterna orange red. Head above and below and pronotum with abundant, moderately large setigerous granules, the setae 4 or 5 times longer than the small conical granule, semi-vertical; pilosity on connexival margin almost horizontal, on abdominal sterna at about 30°, on clavus and corium decumbent. Pilosity black, on scutellum creamy-white.

Head: Length 1.7 to apex of neck, neck 0.2, width across eyes 2.0, interocular space 0.9, interocular sulcus at mid-length of eyes;

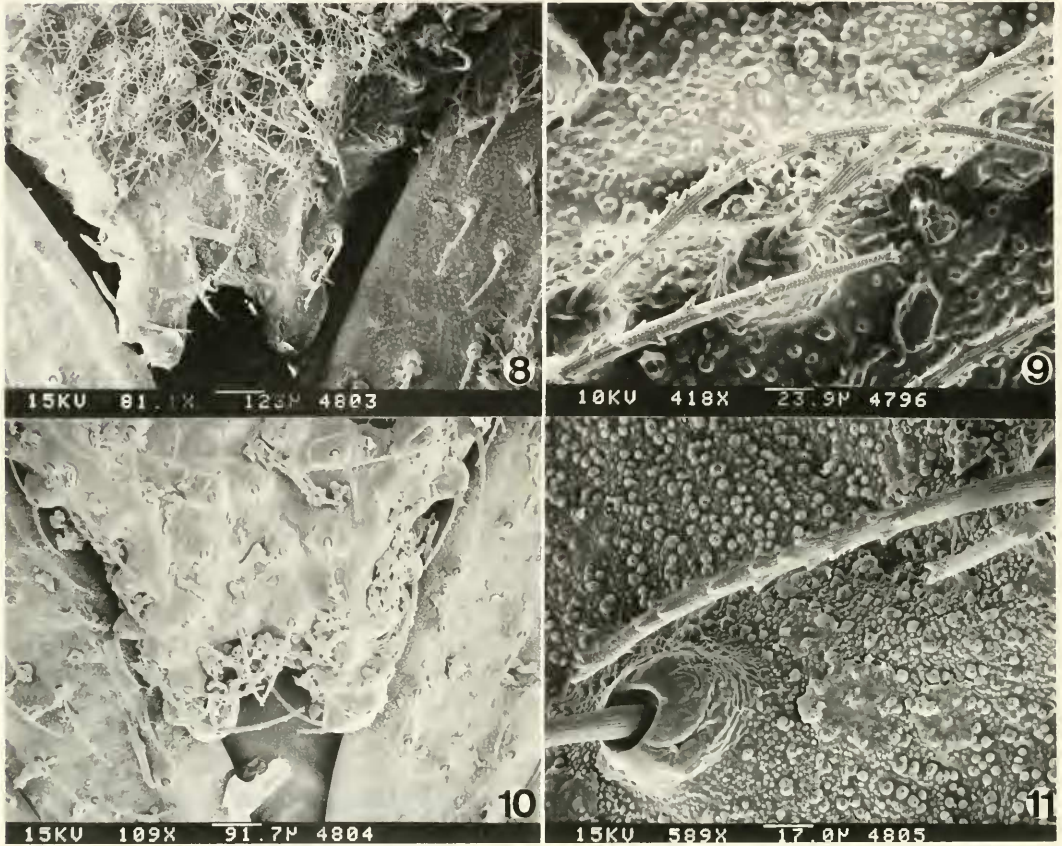
jugae slightly extending beyond apex of tytus; from interocular sulcus to apex of jugum 1.2, from interocular sulcus to base of head 0.75. Eyes hemispherical, relatively small, not reaching undersurface of head, height 0.8. Length of antennal segments: I, 0.62; II, 3.9–4.0; III, 1.5; IV, 1.2; II segment with nine pseudosegments; first three segments with moderately abundant long pilosity, IV with 2 or 3 setae. Rostrum: I, 2.0; II, 1.6 (ventral length); III, 1.3; reaching sulcus of xyphus, upcurved; second segment slightly swollen on apical $\frac{2}{3}$, trapezoidal on lateral aspect; III glabrous. Pronotum: collar very short, partially hidden by pilosity, polished, width 1.2, length 0.1; anterior lobe: greatest width 1.8, length 1.1, setigerous spines arranged in concentric semicircles; posterior lobe densely covered with setigerous granules; posterior margin roundly convex to before humeral angles (Fig. 2); humeral angles round, slightly produced caudad. Scutellum: granulose, wider than long (1.7:1.1), apex two-pronged, prongs straight, apart at slightly more than their basal thickness (Fig. 8); lateral margins carinate. Legs: segments straight; fore femora the thickest (0.8), second femora slightly swollen (0.7); third narrow basally, cylindrical; first and second ventrally, especially toward base, densely covered with sensory setae in addition to the less abundant setigerous granules. Femora anteriorly and posteriorly with a preapical short ventral series of blunt teeth, these increasing in size toward apex (Fig. 3). Anterior and middle tibiae with a small spongy fossa on the surface of truncate apex, fossa slightly surpassing apex of segment. Length of segments.—Fore leg: coxa 0.6, trochanter ventrally 0.7, femur 2.9, tibia 2.6, tarsus 0.8, segments subequal in length; middle leg: coxa 0.8, trochanter 0.7, femur 2.7, tibia 2.7, tarsus 1.0; hind leg: coxa 0.7, trochanter 0.8, femur 4.2, tibia 3.6, tarsus 1.3, third segment the longest (0.55). Claws simple. Fore wings reaching apex of abdomen, connexivum exposed, setae of setigerous granules along veins of



Figs. 2-7. *Homalocoris erythrogaster*, male. 2, pronotum and basal half of hemelytra (dorsal view). 3, armature of profemur (lateral view). 4, genital capsule (dorsal view). 5, same (lateral view). 6, same (caudal view). 7, female genitalia (dorsal view).

corium barbed (Fig. 9). Sterna transversely corrugate, maximum width of abdomen 4.5-4.7. External genitalia as in Figs. 4-6. Length 12.0 mm, average length 12.05 mm, range 11.9-12.2 mm.

Female.—Coloration as in male. Anterior lobe of pronotum reddish brown, abdominal sterna vary from orange red to brownish red. Head: length 1.4, width across eyes 2.1, interocular space 1.0, from interocular sul-



Figs. 8–11. Figs. 8–9. *Homalocoris erythrogaster*, female. 8, apex of scutellum. 9, barbed setigerous granules on R. Figs. 10–11. *Homalocoris minutus*, male. 10, apex of scutellum. 11, barbed setigerous granules on R.

cus to apex of jugum 1.1, from interocular sulcus to base of head 0.9. Pronotum: length of anterior lobe 1.2, greatest width of anterior lobe 2.0, length of posterior lobe 1.8, greatest width of posterior lobe 3.5. Hemelytra reaching to about basal fourth of genital segment. Abdominal sterna not corrugate; greatest width of abdomen 3.4. Genitalia as in Fig. 7. Average length 13.4 mm, range 12.9 to 13.6 mm.

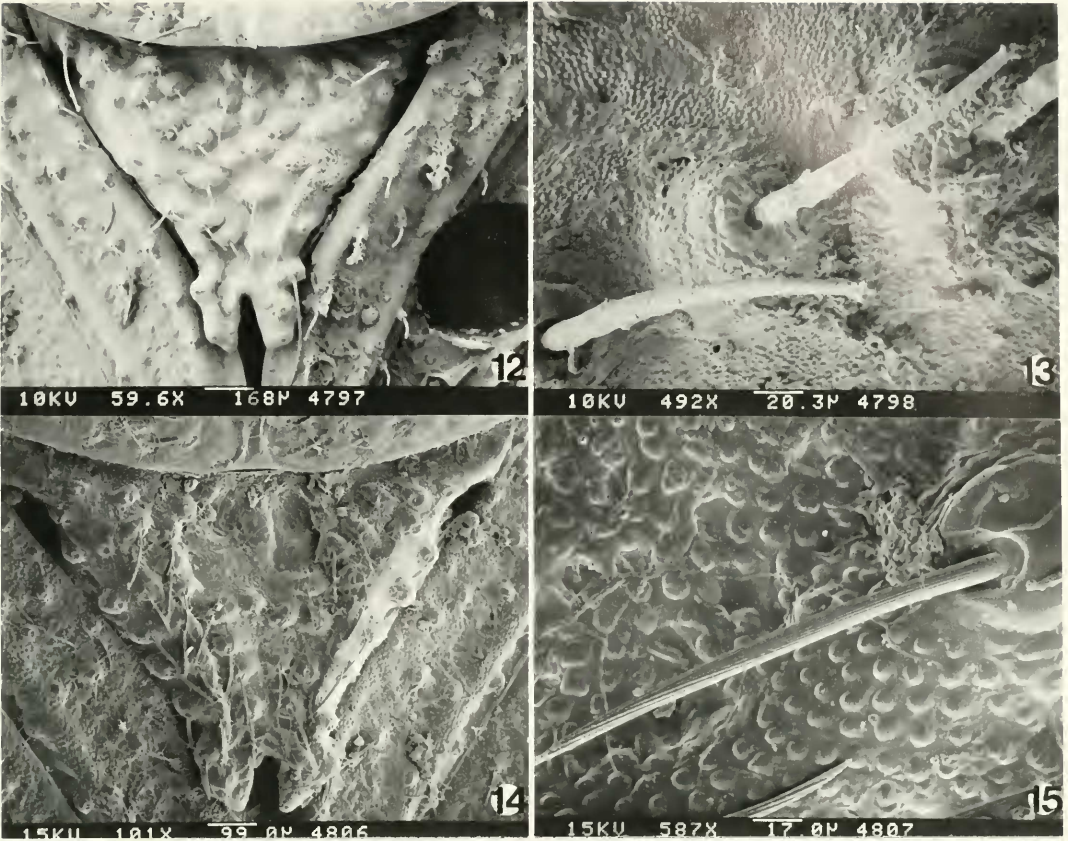
Holotype.—Male, SW Research Station, Chiruchua Mts., Arizona, VIII. 1.58, *ex Pinus chihuahuana*, E. G. Lindsley collector, University of California, Berkeley, Department of Entomological Sciences, on indefinite loan to the California Academy of Science, Department of Entomology, San

Francisco, CA. Paratypes: nine with same data as for holotype, two in JMC collection, others at UCB; one paratype labeled SW Res. Sta., 5 mi W Portal, Cochise Co., Ariz., VII.15.59, E. G. Lindsley collector.

Homalocoris erythrogaster can be separated from its congeners by the characters in the key. The elongate reddish spots on the posterior lobe of the pronotum are distinctive.

DISCUSSION

SEM studies confirmed Maldonado's (1987) observation that in a particular species one of two kinds of setigerous granules occur along the veins of corium: "barbed" (Figs. 9, 11) or "smooth" setae (Figs. 13,



Figs. 12–15. Figs. 12–13. *Homalocoris maculicollis*, male. 12, scutellum. 13, smooth setigerous granule on R. Figs. 14–15. *Homalocoris varius*, male. 14, scutellum. 15, smooth setigerous granule on R.

15). *Homalocoris erythrogaster* n. sp., *H. minutus*, and *H. punctatus* have barbed setae; *H. maculicollis* and *H. varius* have smooth setae. Examined specimens with smooth setae have the prongs of the scutellum close together, whereas those with barbed setae have the prongs separated by at least a prong thickness. Examination of the other species may prove that this is a constant correlation, so these characters are potentially important in the classification of *Homalocoris*.

The antennal trichobothria of the Hammacerinae were examined by Wygodzinsky and Lodhi (1989). Figure 1 suggests that the pseudosegmentation of the second antennal segment allows flexibility but not controlled movement.

KEY TO THE SPECIES IN
HOMALOCORIS

1. Legs stramineous or grayish, irregularly annulate with black; pronotum black 2
- Legs black or irregularly reddish and black; pronotum color variable 3
2. Anterior lobe of pronotum with 1 + 1 grayish spots that do or do not extend into posterior lobe; posterior lobe with numerous grayish spots *H. punctatus* Maldonado
- Both lobes of pronotum margined with grayish, posterior lobe without discal spots *H. varius* (Perty)
3. Legs reddish brown with lighter annuli; fore wing with basal angle and base of clavus reddish; posterior lobe of pronotum throughout its length with 1 + 1 reddish stripes *H. erythrogaster* n. sp.
- Legs black; with another set of characters 4

4. Corium flavus or grayish, with black discal area 5
 - Corium black, with stramineous or grayish areas 6
 5. Pronotum with 1 + 1 stramineous oval vittae on posterior lobe only; black vitta on corium subquadrate; robust, over 14 mm *H. binotatus* Champion
 - Pronotum with 1 + 1 stramineous elongate vittae extended into both lobes; black vitta on corium oblong; somewhat delicate, under 12 mm *H. maculicollis* Stål
 6. Posterior lobe of pronotum with 1 + 1 small stramineous spots contiguous to anterior margin, laterad of short carina; first and second

- femora above with four white granulations *H. guttatus* (Walker)*
 - Posterior lobe of pronotum with 1 + 1 anterolateral larger reddish spots that extend as a P-shaped margin along anterior lobe; first and second femora with poorly developed or without such granulations *H. minutus* Mayr*

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* We do not have male specimens of these two species. They could be "forms" of one species even though they can be separated by the characters in the key. They share an identical pattern of small grayish or stramineous spots on the fore wings as follows: one each at basal angles, one each at apex of clavi, one where the wing margins overlap, and one each about middle of basal margin of membrane. Both species occur in Mexico.